

AN OVERVIEW OF THE *BRICKELLIA LEMMONII* (ASTERACEAE:
EUPATORIEAE) COMPLEX (INCLUDING *B. CONDUPPLICATA*)

B.L. Turner

Department of Botany, University of Texas, Austin, Texas 78713 U.S.A.

ABSTRACT

The *Brickellia lemmonii* complex (including *B. conduplicata*) of México is treated taxonomically. Four regional intergrading varieties are recognized within this complex: var. *carmenensis* B. Turner, largely restricted to the Sierra Del Carmen of north central Coahuila; var. *conduplicata* (B.L. Robins.) B. Turner, mostly restricted to the middle montane regions of southern Nuevo León and adjacent San Luis Potosí; var. *nelsonii* (B.L. Robins.) B. Turner, mostly restricted to central Nuevo León and adjacent Tamaulipas; and var. *lemmonii*, largely restricted to Chihuahua and adjacent U.S.A. Brief descriptions, a key to the taxa concerned and a map showing distributions are provided.

KEY WORDS: *Brickellia*, Asteraceae, Eupatorieae, México.

Brickellia conduplicata was originally described as a variety of *B. betonifolia* A. Gray. Robinson (1917) subsequently elevated this to specific rank. It is typified by material from San Luis Potosí, but Robinson confounded its taxonomic status by including elements of this taxon from southern Coahuila within the closely related and earlier *B. cylindracea* Gray & Engelm. In my forthcoming treatment of *Brickellia* for the Mexican Eupatorieae, I restrict *B. cylindracea* to central Texas and include all of the Mexican elements, along with those from trans-Pecos Texas and adjacent New Mexico, in an expanded *B. lemmonii*. The latter complex is exceedingly variable and has proven to be one of the more difficult groups to treat taxonomically, as noted in the treatment that follows.

Brickellia lemmonii A. Gray, Proc. Amer. Acad. Arts 17:206. 1882.

Robinson (1917) treated *Brickellia lemmonii* as composed of two infraspecific taxa: var. *lemmonii*, which was distinguished by its paniculately branched capitulescence; and var. *wootoni* with a raceme like, mostly unbranched capitulescence. After examination of a broad range of material from México and adjacent U.S.A., I am unable to distinguish between the varieties, the character

of the capitulescence being largely determined by leaf arrangement, opposite leaves producing a panicle like capitulescence, alternate leaves producing a raceme like capitulescence, much as shown in Robinson's (1917) delineation of these taxa. Indeed, the holotype of *B. lemmonii* (GH!) consists of two sprigs, one with alternate leaves, the other with opposite leaves. The sprigs appear to be from different plants, but in nearly all other characters, they are essentially identical. Further, *B. lemmonii* appears to grade into *B. nelsonii* B.L. Robins. in Coahuila México, the latter, in turn, grading into *B. conduplicata* B.L. Robins., as might be inferred from Figure 1. In addition, a fourth infraspecific taxon, var. *carmenensis* B. Turner, is newly described herein. In summary, *B. lemmonii* appears to be a widespread, highly variable species comprised of four intergrading varieties indicated in the treatment that follows.

Key to varieties

1. Blades of leaves ovate, mostly 2-3 times as long as wide; inner involucre bracts mostly acute(2)
- 1' Blades of leaves broadly ovate to subdeltoid, 1-2 times as long as broad; petioles mostly 3-10 mm long; inner involucre bracts obtuse to somewhat rounded (except in var. *carmenensis*)(3)
 2. Blades of leaf pallid green, the undersurfaces and stems densely puberulent, the veins raised, reticulate; n Chihuahua, nw Coahuila adjacent U.S.A. var. *lemmonii*
 - 2' Blades of leaf not pallid green, the undersurfaces moderately hispid to puberulous along the veins; Coahuila, Nuevo León, Tamaulipas, San Luis Potosí var. *nelsonii*
3. Inner involucre bracts mostly lanceolate with obtuse apices; se Coahuila, Nuevo León, Tamaulipas, San Luis Potosí var. *conduplicata*
- 3' Inner involucre bracts linear-lanceolate with sharply acute apices; Sierra del Carmen, Coahuila var. *carmenensis*

***Brickellia lemmonii* A. Gray var. *carmenensis* B. Turner, var. nov. TYPE:** MÉXICO. Coahuila: W slope of Sierra del Jardín (29° 03' N, 102° 38' W), 1400-2500 m, 16 Sep 1972, *F. Chiang, T. Wendt & M.C. Johnston 9324* (HOLOTYPE: LL; Isotype MEXU).

Brickellia conduplicatae B.L. Robins. similis sed foliis chloroleucis tenuioribus, flosculis numerosioribus, et bracteis involucri acute acutis differt.

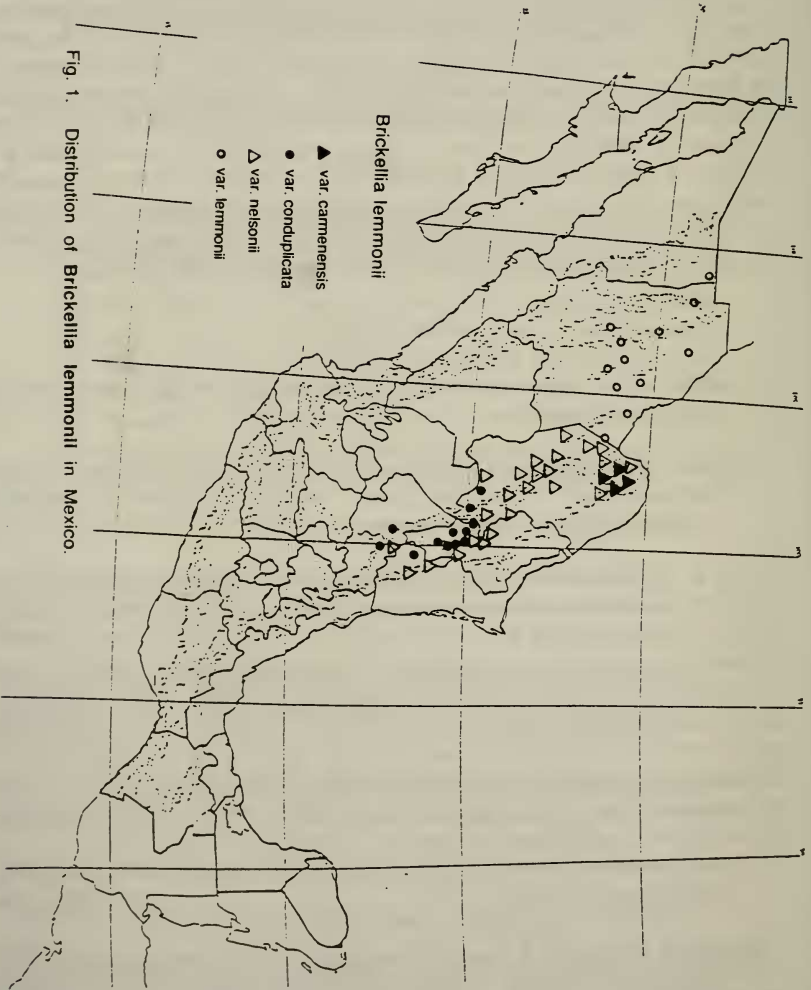


Fig. 1. Distribution of *Brickellia lemmonii* in Mexico.

ADDITIONAL COLLECTIONS EXAMINED: MÉXICO. Coahuila: Sierra Del Carmen, 20 Aug 1936, *Marsh 572* (TEX); Madera Canyon, E side of Sierra Carmen Madera, 22 Aug 1966, *Powell, et al. 1453* (LL,TEX); same locality and date, *Powell, et al. 1466* (LL,TEX).

Brickellia lemmonii A. Gray var. *conduplicata* (B.L. Robins.) B. Turner, *comb. nov.* BASIONYM: *Brickellia conduplicata* B.L. Robins., Mem. Gray Herb. 1:79. 1917.

Suffruticose perennial herbs 30-100 cm high; leaves mostly alternate along the upper stems, 2-4 cm long, 1-3 cm wide; petioles 2-8 mm long; blades broadly ovate, obtuse or rounded at the base, coarsely reticulate veined beneath, moderately strigopuberulent, especially along the veins, the margins crenulodentate; heads usually numerous in both terminal and axillary racemes, the ultimate peduncles mostly 0.5-2.0 mm long; involucre 8-11(-13) mm high, the inner bracts usually purplish, obtuse to rounded at the apices; florets mostly 10-12 per head; achenes 3.5-4.0 mm long, pubescent throughout, the pappus of ca 40 bristles 8-10 mm long. This variety occupies the higher pine-oak zones in the mountains about Saltillo, Coahuila and extends southward in similar habitats to San Luis Potosí. It appears to grade into var. *nelsonii* northward and downslope.

Brickellia lemmonii A. Gray var. *nelsonii* (B.L. Robins.) B. Turner, *comb. nov.* BASIONYM: *Brickellia nelsonii* B.L. Robins., Mem. Gray Herb. 1:29. 1917.

This variety much resembles var. *conduplicata* but the leaves are nearly always ovate to narrowly ovate, 2.5-4.0 times as long as wide, usually acutely tapering upon the blades, the venation less pronounced beneath and heads usually fewer on longer ultimate peduncles (mostly 1-4 cm long vs 0.5-2.0 cm). The taxon is relatively uniform throughout most of Coahuila, but in the area of Saltillo and Monterrey it appears to intergrade upslope with var. *conduplicata*, the type itself appearing to have at least a few characters of the latter taxon.

Brickellia lemmonii A. Gray var. *lemmonii*. *Coleosanthus lemmonii* (A. Gray) Ktze., Rev. Gen. 1:328. 1891.

Coleosanthus wootonii Greene, Bull. Torrey Bot. Club 24:511. 1897.

Brickellia lemmonii A. Gray var. *wootonii* (Greene) B.L. Robins., Mem. Gray Herb. 1:50. 1917.

Coleosanthus densus Greene, Pittonia 4:126. 1900.

Brickellia viejensis Flyr, Sida 3:253. 1968.

This variety much resembles var. *conduplicata* but the leaves are mostly ovate (2.5-3.5 times longer than wide), pallid green, the petioles mostly 0-3 mm long, and the involucral bracts lance-ovate and sharply acute; chromosome number, $n=9$ pairs.

The taxon intergrades southward into var. *nelsonii*, the latter differing in having mostly sparsely hispidulous leaves with longer petioles.

As indicated in Figure 1, var. *lemmonii* occurs in Chihuahua and north-eastern Coahuila, extending northward into trans-Pecos Texas and adjacent New Mexico.

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LITERATURE CITED

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